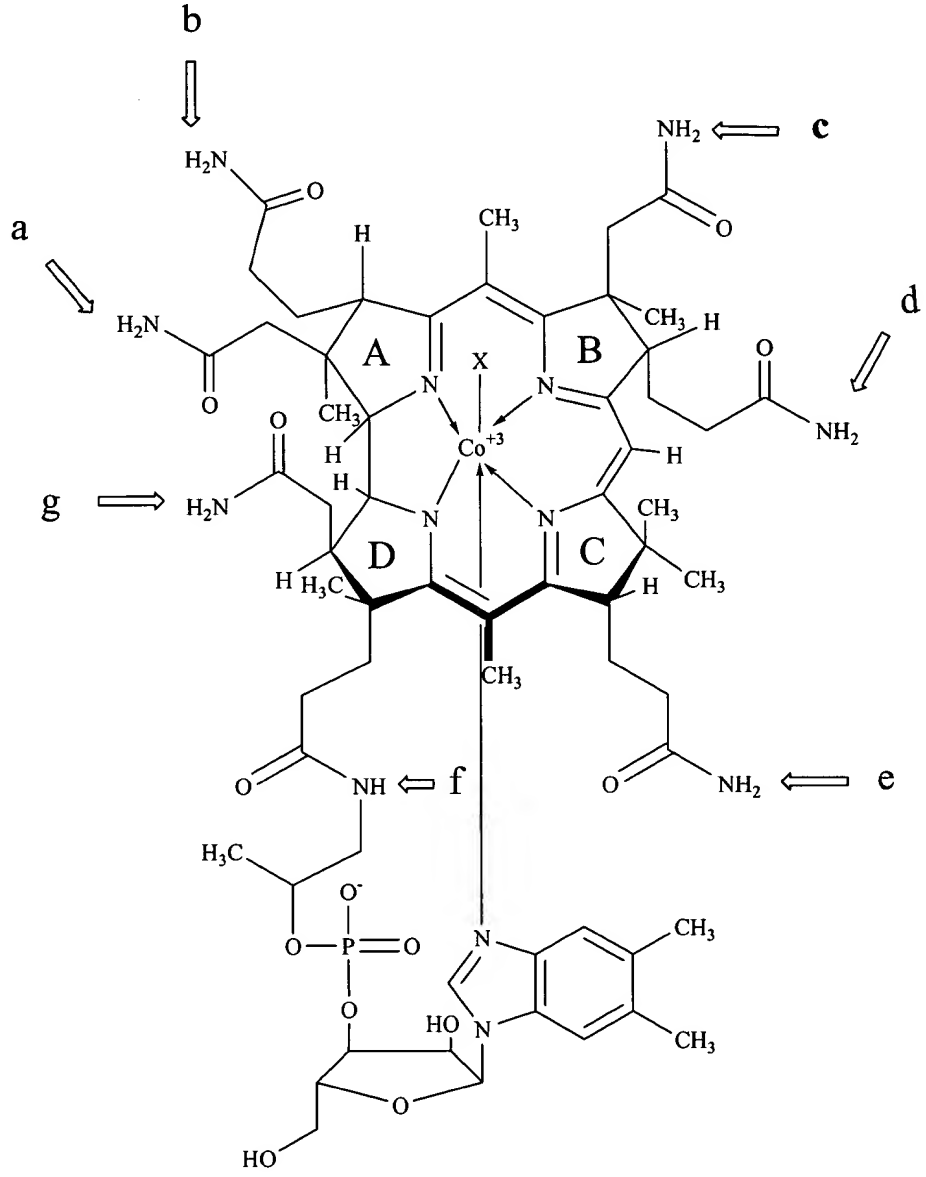
REPLACEMENT CLAIM SET

1) A compound of formula I



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linked to a molecule comprising B-10, wherein X is CN, OH, CH_3, adenosyl or a molecule comprising B-10 and optionally linked to a linker comprising a detectable radionuclide or a therapeutic radionuclide; or a pharmaceutically acceptable salt thereof.

2) The compound of claim 1, wherein the molecule comprising B-10 is directly linked to the 6-position of the compound of formula I or is directly linked to the b, d or e-carboxamide group of the compound of formula I.

3) The compound of claim 1, wherein the molecule comprising B-10 is linked by a linker to the 6-position of the compound of formula I or is linked by a linker to the b, d or e-carboxamide group of the compound of formula I.

4) The compound of claim 1, wherein the molecule comprising B-10 is linked to the b-carboxamide group of the compound of formula I.

5) The compound of claim 1, wherein the rmolecule comprising B-10 is linked to the d-carboxamide group of the compound of formula I.

6) The compound of claim 1, wherein the molecule comprising B-10 is linked to the e-carboxamide group of the compound of formula I.

7) The compound of claim 1, wherein the molecule comprising B-10 is linked to the b-carboxamide group and a second molecule comprising B-10 is linked to the d-carboxamide group of the compound of formula I.

8) The compound of claim 1, wherein molecule comprising B-10 is linked to the 6-position of the compound of formula I.

9) The compound of claim 1, wherein the molecule comprising B-10 contains 1 to about 20 boron atoms, inclusive.

10) The compound of claim 1, wherein the molecule comprising B-10 is an amino acid, a carbohydrate, a nucleoside or a carborane.

11) The compound of claim 1, wherein the molecule comprising B-10 is o-carborane, m-carborane or p-carborane.

12) The compound of claim 1, wherein the molecule comprising B-10 is o-carborane.

13) The compound of claim 3, wherein at least one linker is of the formula W-A-Q wherein A is $(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, $(C_2\text{-}C_6)$alkynyl, $(C_3\text{-}C_8)$cycloalkyl, or $(C_6\text{-}C_{10})$aryl, wherein W and Q are each independently -N(R)C(=O)-, -C(=O)N(R)-, -OC(=O)-, -C(=O)O-, -O-, -S-, -S(O)-, $-S(O)_2$-, -N(R)-, -C(=O)-, or a direct bond; wherein each R is independently H or $(C_1\text{-}C_6)$alkyl.

14) The compound of claim 13, wherein W is NH_2 or COOH and Q is NH_2 or COOH.

15) The compound of claim 13, wherein A is $(C_1\text{-}C_6)$alkyl.

16) The compound of claim 3, wherein at least one linker is about 5 angstroms to about 50 angstroms, inclusive.

17) The compound of claim 3, wherein at least one linker comprises a therapeutic radionuclide or a diagnostic radionuclide.

18) The compound of claim 17, wherein the therapeutic radionuclide is a metallic radionuclide.

19) The compound of claim 17, wherein the diagnostic radionuclide is a metallic radionuclide.

20) The compound of claim 17, wherein the diagnostic radionuclide is a non-metallic radionuclide.

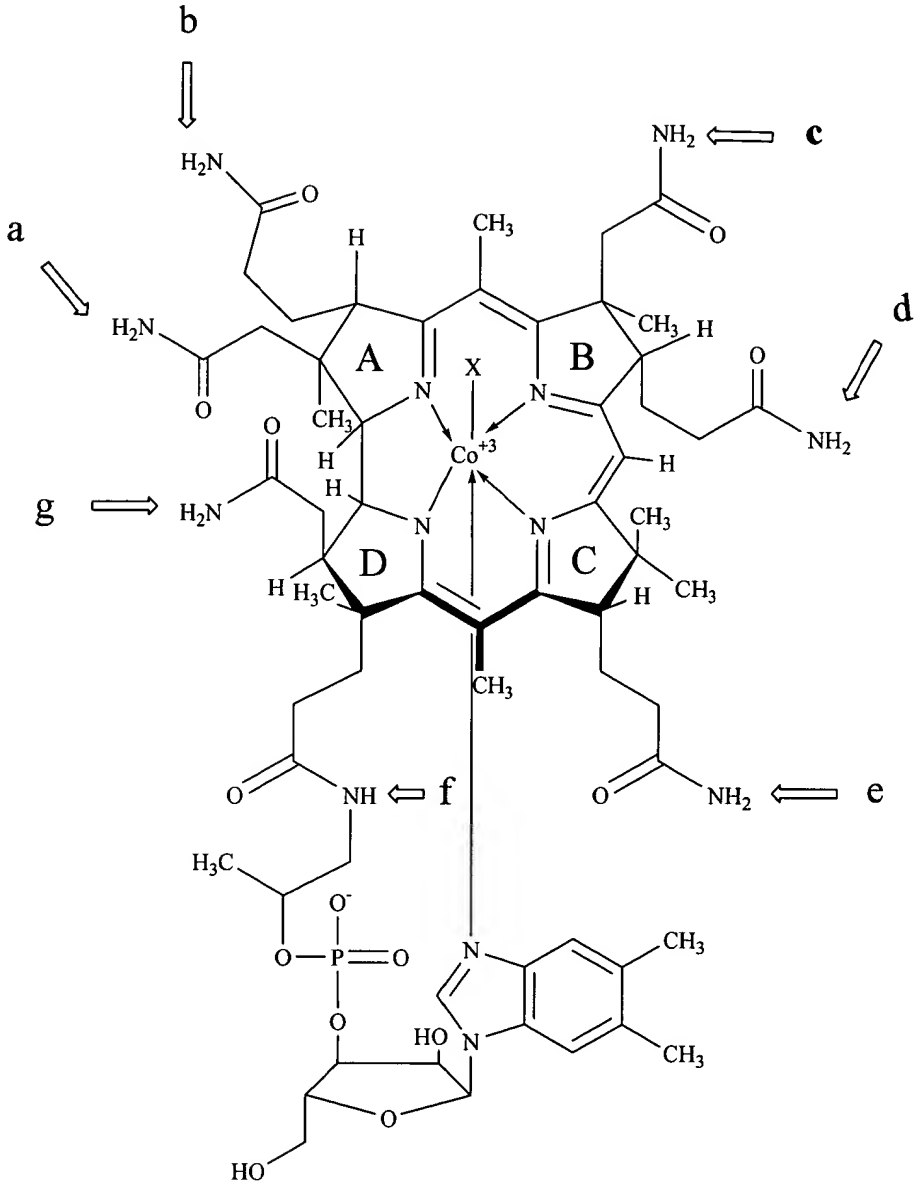
21) The compound of claim 3, wherein at least one linker is a divalent radical formed from a peptide.

22) The compound of claim 3, wherein at least one linker is a divalent radical formed form an amino acid.

23) The compound of claim 3, wherein at least one linker is poly-L-glutamic acid, poly-L-aspartic acid, poly-L-histidine, poly-L-ornithine, poly-L-serine, poly-L-threonine, poly-L-tyrosine, poly-L-leucine, poly-L-lysine-L-phenylalanine, poly-L-lysine or poly-L-lysine-L-tyrosine.

24) The compound of claim 1, wherein the compound of formula I is also linked to a linker comprising a detectable radionuclide or a therapeutic radionuclide.

25) A compound of formula I



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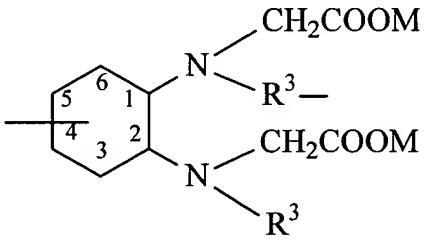
linked to one or more groups of the formula Q-L-W-Det, wherein X is CN, OH, CH_3, adenosyl, a molecule comprising B-10 or Q-L-W-Det; wherein Det is a chelating group comprising Gd-157; L is a linker or absent; and W and Q are each independently –N(R)C(=O)-, -C(=O)N(R)-, -OC(=O)-, -C(=O)O-, -O-, -S-, -S(O)-, -$S(O)_2$-, -N(R)-, -C(=O)-, or a direct bond; wherein each R is independently H or (C_1-C_6)alkyl; or a pharmaceutically acceptable salt thereof.

26) The compound of claim 25, wherein the group of the formula Q-L-W-Det is linked to the b-carboxamide group, d-carboxamide group, e-carboxamide group or the 6-position of the compound of formula I.

27) The compound of claim 25, wherein the group of the formula Q-L-W-Det is linked to the b-carboxamide group and a second group of the formula Q-L-W-Det is linked to the d-carboxamide group of the compound of formula I.

28) The compound of claim 25, wherein the group of the formula Q-L-W-Det is between about 20 and about 500 angstroms, inclusive, in length.

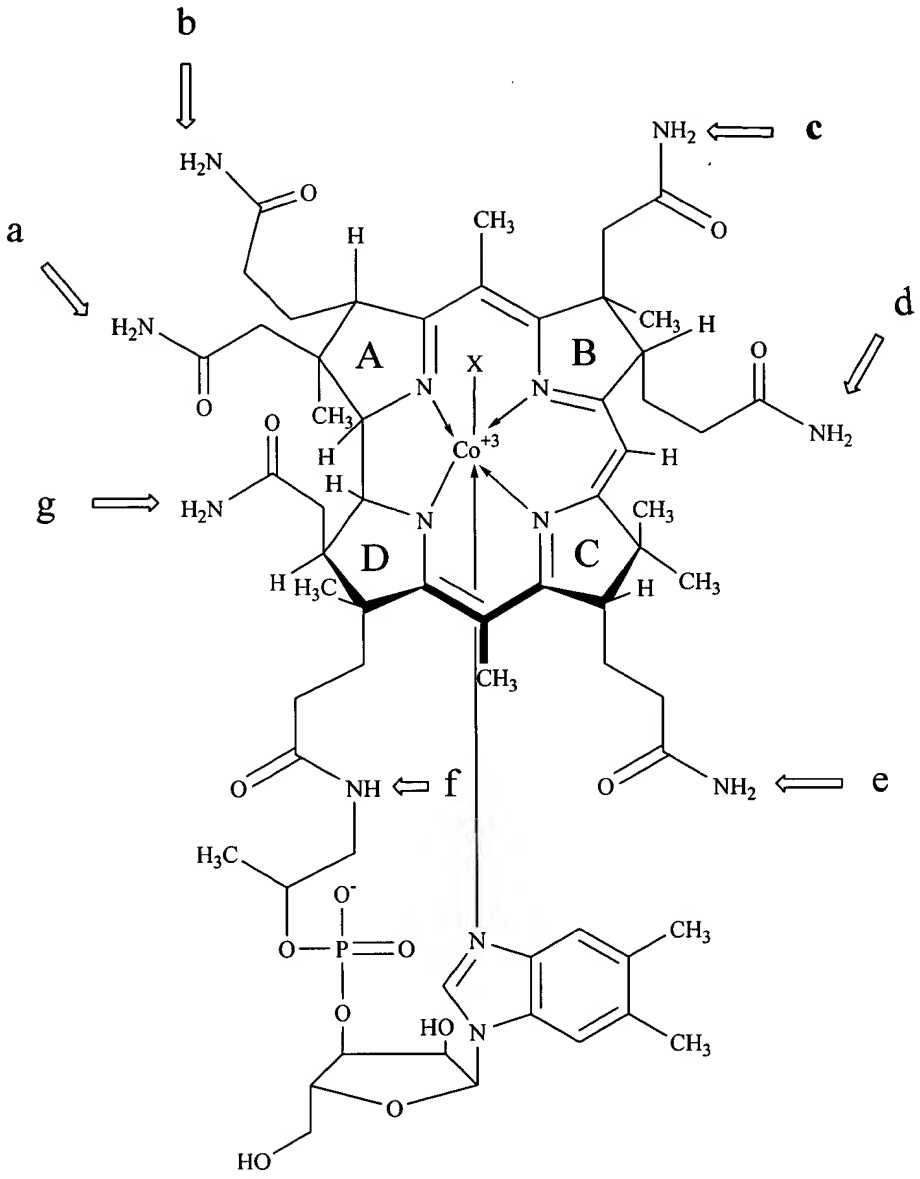
29) The compound of claim 25, wherein at least one chelating group is ethylenediaminetetraacetic acid (EDTA); diethylenetriaminepentaacetic acid (DTPA); 1,4,7,10-tetraazacyclododecane-N,N',N",N'"-tetraacetic acid (DOTA); 1,4,8,11-tetraazacyclotetradecane-N,N',N",N'"-tetraacetic acid (TETA); 1,4,8,12-tetraazacyclopentadecane-N,N',N",N'"-tetraacetic acid (15N4); 1,4,7-triazacyclononane-N,N',N"-triacetic acid (9N3); 1,5,9-triazacyclododecane-N,N',N"-triacetic acid (12N3); N-[N-[N-[(benzoylthio) acetyl]glycyl]glycyl]glycine (MAG3); or a cyclohexane-based metal chelator (DCTA) of the formula



wherein R^3 may be $(C_1\text{-}C_4)$alkyl or CH_2CO_2-.

30) The compound of claim 25, wherein at least one chelating group is diethylenetriaminepentaacetic acid (DTPA) comprising Gd-157.

31) A compound of formula I



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linked to a molecule comprising B-10; wherein the compound of formula I is linked to a group of the formula Q-L-W-Det, wherein X is CN, OH, CH_3, adenosyl, a molecule comprising B-10 or Q-L-W-Det; wherein

a) Det is a chelating group comprising a therapeutic radionuclide or a diagnostic radionuclide;

b) L is a linker or absent; and

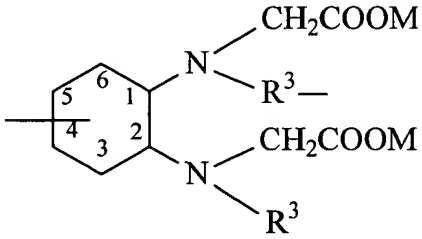
c) Q and W are each independently –N(R)C(=O)-, -C(=O)N(R)-, -OC(=O)-, -C(=O)O-, -O-, -S-, -S(O)-, -S(O)$_2$-, -C(=O)-, -N(R)-, or a direct bond; wherein each R is independently H or (C_1-C_6)alkyl;

or a pharmaceutically acceptable salt thereof.

32) The compound of claim 31, wherein at least one of the radionuclides is Tc^{99m}, In^{111}, In^{110}, Gd^{157} or Y^{86}.

33) The compound of claim 31, wherein a molecule comprising B-10 is linked to a b-carboxamide group, d-carboxamide group, e-carboxamide group or the 6-position of the compound of formula I.

34) The compound of claim 31, wherein at least one chelating group is ethylenediaminetetraacetic acid (EDTA); diethylenetriaminepentaacetic acid (DTPA); 1,4,7,10-tetraazacyclododecane-N,N',N",N'"-tetraacetic acid (DOTA); 1,4,8,11-tetraazacyclotetradecane-N,N',N",N'"-tetraacetic acid (TETA); 1,4,8,12-tetraazacyclopentadecane-N,N',N",N'"-tetraacetic acid (15N4); 1,4,7-triazacyclononane-N,N',N"-triacetic acid (9N3); 1,5,9-triazacyclododecane-N,N',N"-triacetic acid (12N3); N-[N-[N-[(benzoylthio) acetyl]glycyl]glycyl]glycine (MAG3); or a cyclohexane-based metal chelator (DCTA) of the formula



wherein R^3 may be (C_1-C_4)alkyl or CH_2CO_2-.

35) The compound of claim 31, wherein at least one chelating group is diethylenetriaminepentaacetic acid (DTPA) comprising Gd-157.

36) The compound of claim 31, wherein the molecule comprising B-10 contains about 1 to about 20 boron atoms, inclusive.

37) The compound of claim 31, wherein the molecule comprising B-10 is an amino acid, a carbohydrate, a nucleoside or a carborane.

38) The compound of claim 31, wherein the molecule comprising B-10 is o-nido-carborane, m-nido-carborane or p-nido-carborane.

39) The compound of claim 31, wherein the molecule comprising B-10 is o-carborane.

40) The compound of claim 31, wherein the molecule comprising B-10 is directly linked to the 6-position or to the b, d or e-carboxamide group of the compound of formula I.

41) The compound of claim 31, wherein the compound of formula I is linked to the molecule comprising B-10 through a linker.

42) The compound of claim 41, wherein the linker comprises a non-metallic radionuclide.

43) The compound of claim 41, wherein the linker is about 5 angstroms to about 50 angstroms, inclusive.

44) The compound of claim 1, further comprising a detectable radionuclide.

45) The compound of claim 44, wherein the detectable radionuclide is a non-metallic radionuclide.

46) The compound of claim 45, wherein the non-metallic radionuclide is Carbon-11, Fluorine-18, Bromine-76, Iodine-123 or Iodine-124.

47) The compound of claim 44, wherein the detectable radionuclide is directly linked to the compound of formula I.

48) The compound of claim 44, wherein the detectable radionuclide is linked by a linker to the compound of formula I.

49) The compound of claim 48, wherein the linker is of the formula W-A wherein A is (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, (C_3-C_8)cycloalkyl, or (C_6-C_{10})aryl, wherein W is -N(R)C(=O)-, -C(=O)N(R)-, -OC(=O)-, -C(=O)O-, -O-, -S-, -S(O)-, -$S(O)_2$-, -N(R)-, -C(=O)-, or a direct bond; wherein each R is independently H or (C_1-C_6)alkyl, and wherein A is substituted with one or more non-metallic radionuclides.

50) The compound of claim 48, wherein the linker is about 5 angstroms to about 50 angstroms, inclusive.

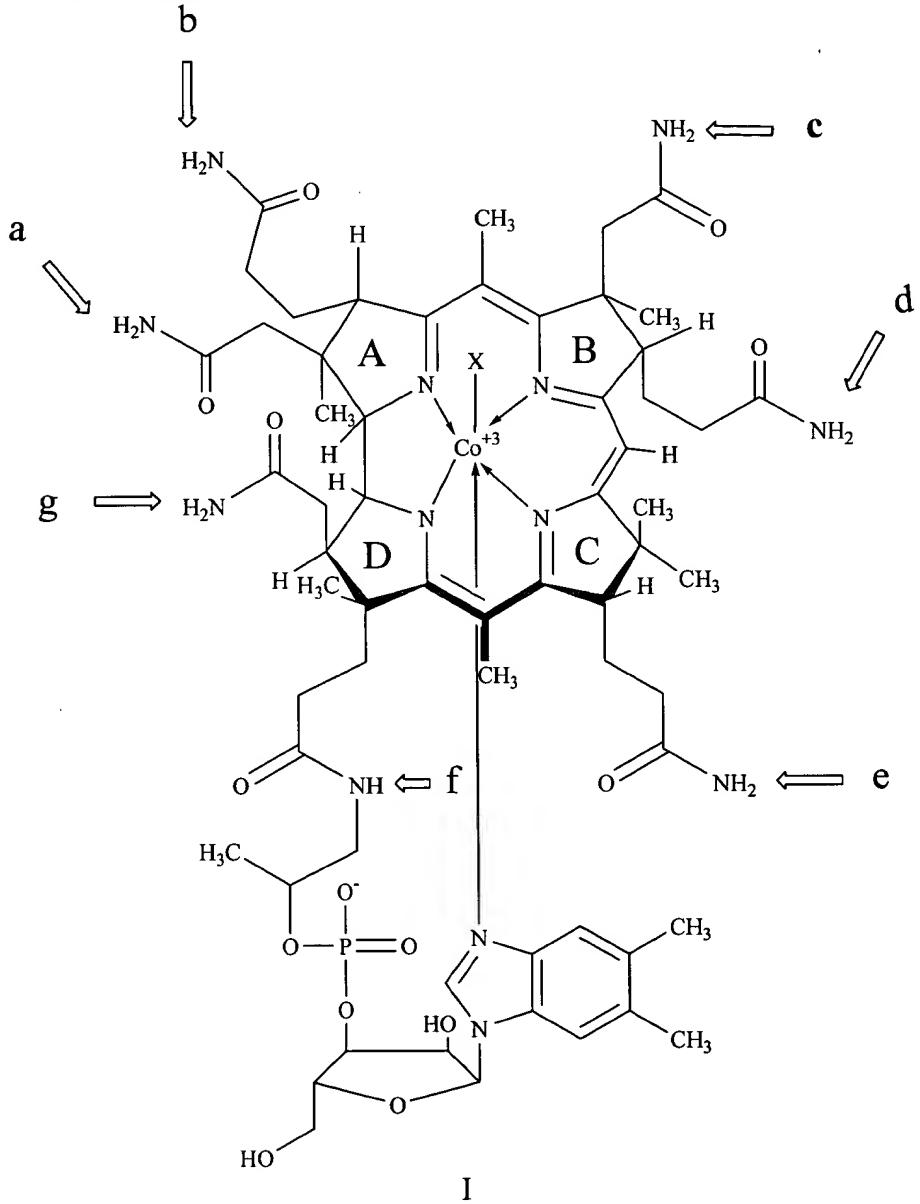
51) The compound of claim 48, wherein the linker is a divalent peptide or amino acid.

52) The compound of claim 48, wherein the linker is poly-L-glutamic acid, poly-L-aspartic acid, poly-L-histidine, poly-L-ornithine, poly-L-serine, poly-L-threonine, poly-L-

tyrosine, poly-L-leucine, poly-L-lysine-L-phenylalanine, poly-L-lysine or poly-L-lysine-L-tyrosine.

53) The compound of claim 48, wherein the linker is linked to the 6-position of the compound of formula I or is linked to the a b-, d- or e-carboxamide group of the compound of formula I.

65) A compound of formula I



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linked

1) to a molecule comprising B-10 or a chelating group comprising Gd-157; and

2) to at least one molecule of the formula Q-L-W-Det, wherein X is CN, OH, CH_3, adenosyl, a molecule comprising B-10 or Q-L-W-Det; wherein each Det is independently a chelating group comprising a metallic radionuclide; each L is independently a linker or absent; and each W and Q are each independently -N(R)C(=O)-, -C(=O)N(R)-, -OC(=O)-, -C(=O)O-, -O-, -S-, -S(O)-, -$S(O)_2$-, -C(=O)-, -N(R)-, or a direct bond; wherein each R is independently H or (C_1-C_6)alkyl;

or a pharmaceutically acceptable salt thereof.

66) The compound of claim 1 or 44, wherein the compound of formula I is also linked to a group comprising Gd-157.

67) The compound of claim 66, wherein the group comprising Gd-157 has the formula Q-L-W-Det, wherein X is CN, OH, CH_3, adenosyl, a molecule comprising B-10 or Q-L-W-Det; wherein Det is a chelating group comprising Gd-157; L is a linker or absent; and W and Q are each independently -N(R)C(=O)-, -C(=O)N(R)-, -OC(=O)-, -C(=O)O-, -O-, -S-, -S(O)-, -$S(O)_2$-, -N(R)-, -C(=O)-, or a direct bond; wherein each R is independently H or (C_1-C_6)alkyl.

68) A composition comprising a compound of any one of claim 1-53 or 65-67 and a pharmaceutically acceptable carrier.

69) A method of treating a tumor in a mammal in need of such treatment comprising administering to the mammal an effective amount of a compound of any one of claim 1-53 or 65-67 in combination with a pharmaceutically acceptable vehicle; and administering neutron capture therapy.

70) A method for imaging a tumor in a mammal comprising administering to the mammal a detectable amount of a compound of any one of claim 1-53 or 65-67; and detecting the presence of the compound.

71) The method of claim 70, further comprising treating the tumor with neutron capture therapy.